

## CLAIMS

1. A thin film transistor comprising:  
an insulating layer having a first opening;  
5 a first conductive layer in the opening; and  
a second conductive layer on the insulating layer and the  
first conductive layer,  
wherein the first conductive layer is wider and thicker  
than the second conductive layer.
- 10 2. A thin film transistor comprising:  
an insulating layer having a first opening;  
a first conductive layer in the opening; and  
a second conductive layer on the insulating layer and the  
15 first conductive layer,  
wherein the first conductive layer is wider and thicker  
than the second conductive layer, and  
wherein the second conductive layer is formed by a droplet  
discharge method using a conductive material.
- 20 3. A display device comprising:  
a first insulating layer having a first opening;  
a first conductive layer in the first opening;  
a second conductive layer on the first insulating layer  
25 and the first conductive layer;  
a semiconductor layer over the second conductive layer  
with a gate insulating film therebetween;  
a third conductive layer over the semiconductor layer;  
a second insulating layer having a second opening over  
30 the third conductive layer; and

a fourth conductive layer in the second opening,  
wherein the first conductive layer is wider and thicker  
than the second conductive layer, and

wherein the fourth conductive layer is thicker than the  
5 third conductive layer.

4. A display device comprising:

a first insulating layer having a first opening;

a first conductive layer in the first opening;

10 a second conductive layer on the first insulating layer  
and the first conductive layer;

a semiconductor layer over the second conductive layer  
with a gate insulating film therebetween;

a third conductive layer over the semiconductor layer;

15 a second insulating layer having a second opening over  
the third conductive layer; and

a fourth conductive layer in the second opening,

wherein the first conductive layer is wider and thicker  
than the second conductive layer,

20 wherein the fourth conductive layer is thicker than the  
third conductive layer, and

wherein each of the second conductive layer and the third  
conductive layer is formed by a droplet discharge method using  
a conductive material.

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5. A display device comprising:

a first insulating layer having a first opening;

a first conductive layer in the first opening;

a second conductive layer on the first insulating layer  
30 and the first conductive layer;

a semiconductor layer over the second conductive layer with a gate insulating film therebetween;

a pair of third conductive layers over the semiconductor layer;

5 a first electrode over one of the pair of third conductive layers;

an electroluminescent layer over the first electrode; and

a second electrode over the electroluminescent layer,

wherein the first conductive layer is wider and thicker  
10 than the second conductive layer.

6. A display device comprising:

a first insulating layer having a first opening;

a first conductive layer in the first opening;

15 a second conductive layer on the first insulating layer and the first conductive layer;

a semiconductor layer over the second conductive layer with a gate insulating film therebetween;

20 a pair of third conductive layers over the semiconductor layer;

a first electrode over one of the pair of third conductive layers;

an electroluminescent layer over the first electrode; and

a second electrode over the electroluminescent layer,

25 wherein the first conductive layer is wider and thicker than the second conductive layer, and

wherein the second conductive layer is formed by a droplet discharge method using a conductive material.

7. A display device comprising:

a first insulating layer having a first opening;

a first conductive layer in the first opening;

5 a second conductive layer on the insulating layer and the first conductive layer;

a semiconductor layer over the second conductive layer with a gate insulating film therebetween;

a pair of third conductive layers over the semiconductor layer;

10 a first electrode over one of the pair of third conductive layers;

a second insulating layer having a second opening over the other one of the pair of third conductive layers;

a fourth conductive layer in the second opening;

15 an electroluminescent layer over the first electrode; and

a second electrode over the electroluminescent layer,

wherein the first conductive layer is wider and thicker than the second conductive layer, and

20 wherein the fourth conductive layer is thicker than the third conductive layer.

8. A display device comprising:

a first insulating layer having a first opening;

a first conductive layer in the first opening;

25 a second conductive layer on the first insulating layer and the first conductive layer;

a semiconductor layer over the second conductive layer with a gate insulating film therebetween;

30 a pair of third conductive layers over the semiconductor layer;

a first electrode over one of the pair of third conductive layers;

a second insulating layer having a second opening over the other one of the pair of third conductive layers;

5 a fourth conductive layer in the second opening;

an electroluminescent layer over the first electrode; and

a second electrode over the electroluminescent layer, wherein the first conductive layer is wider and thicker than the second conductive layer,

10 wherein the fourth conductive layer is thicker than the third conductive layer, and

wherein each of the second conductive layer and the third conductive layer is formed by a droplet discharge method using a conductive material.

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9. The thin film transistor or the display device according to any one of claims 1 to 8, wherein the thin film transistor or the display device further comprises a titanium oxide film below the first conductive layer.

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10. The thin film transistor or the display device according to any one of claims 1 to 8, wherein the thin film transistor or the display device further comprises a film comprising at least one selected from the group consisting of  
25 W (tungsten), Al (aluminum), Ta (tantalum), Zr (zirconium), Hf (hafnium), Ir (iridium), Nb (niobium), Pd (lead), Pt (platinum), Mo (molybdenum), Rh (rhodium), Sc (scandium), Ti (titanium), V (vanadium), Cr (chromium), Mn (manganese), Fe (iron), Co (cobalt), Ni (nickel), Cu (copper), and Zn (zinc) below the  
30 first conductive layer.

11 The thin film transistor or the display device  
according to any one of claims 1 to 8, wherein the second  
conductive layer includes at least one of silver, gold, copper,  
5 and indium tin oxide.

12. The display device according to any one of claims 3  
to 8, wherein the third conductive layer includes at least one  
of silver, gold, copper, and indium tin oxide.

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13. The thin film transistor or the display device  
according to any one of claims 1 to 8, wherein a width of the  
first opening is from 5  $\mu\text{m}$  to 100  $\mu\text{m}$ .

14. The display device according to any one of claims 3  
to 8, wherein the semiconductor layer is an amorphous  
semiconductor layer including at least one of hydrogen and  
halogen.

15. The display device according to any one of claims 3  
to 8, wherein the semiconductor layer is a semi-amorphous  
semiconductor layer including at least one of hydrogen and  
halogen.

16. The display device according to any one of claims 3  
to 8, wherein the semiconductor layer is a polycrystalline  
semiconductor including at least one of hydrogen and halogen.

17. The display device according to any one of claims 3  
to 8, wherein a channel length of the semiconductor layer is

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from 5  $\mu\text{m}$  to 100  $\mu\text{m}$ .

18. A television apparatus including the display device according to any one of claims 3 to 8 as a display screen.

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19. A television apparatus including a display device with the thin film transistor according to claim 1 or 2 as a display screen.

10 20. A method for manufacturing a display device comprising the steps of:

forming an insulating layer having a first opening;

forming a first conductive layer in the first opening;

and

15 forming a second conductive layer over the insulating layer and the first conductive layer by a droplet discharge method using a first conductive material,

wherein the first conductive layer is formed to be wider and thicker than the second conductive layer.

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21. A method for manufacturing a display device comprising the steps of:

forming a first insulating layer having a first opening;

forming a first conductive layer in the first opening;

25 forming a second conductive layer by a droplet discharge method using a first conductive material on the first insulating layer and the first conductive layer;

forming a semiconductor layer over the second conductive layer with a gate insulating film therebetween;

30 forming a third conductive layer over the semiconductor



layer by a droplet discharge method using a second conductive material;

forming a second insulating layer over the third conductive layer; and

5 forming a fourth conductive layer over the third conductive layer,

wherein the first conductive layer is formed to be wider and thicker than the second conductive layer, and

10 wherein the fourth conductive layer is formed to be thicker than the third conductive layer.

22. A method for manufacturing a display device comprising the steps of:

15 forming a first insulating layer having a first opening;  
forming a first conductive layer in the first opening;  
forming a second conductive layer by a droplet discharge method using a first conductive material on the insulating layer and the first conductive layer;

20 forming a semiconductor layer over the second conductive layer with a gate insulating film therebetween;

forming a third conductive layer over the semiconductor layer by a droplet discharge method using a second conductive material;

25 forming a first electrode over the third conductive layer;

forming an electroluminescent layer over the first electrode; and

forming a second electrode over the electroluminescent layer,

30 wherein the first conductive layer is formed to be wider



and thicker than the second conductive layer.

23. A method for manufacturing a display device comprising the steps of:

- 5       forming a first insulating layer having a first opening;  
      forming a first conductive layer in the first opening;  
      forming a second conductive layer by a droplet discharge  
method using a first conductive material on the insulating layer  
and the first conductive layer;
- 10       forming a semiconductor layer over the second conductive  
layer with a gate insulating film therebetween;  
      forming a pair of third conductive layers over the  
semiconductor layer by a droplet discharge method using a second  
conductive material;
- 15       forming a first electrode over one of the pair of third  
conductive layers;  
      forming a second insulating layer over the other one of  
the third conductive layer;  
      forming a fourth conductive layer over the other one of  
20   the third conductive layer;  
      forming an electroluminescent layer over the first  
electrode; and  
      forming a second electrode over the electroluminescent  
layer,
- 25       wherein the first conductive layer is formed to be wider  
and thicker than the second conductive layer.

24. The method for manufacturing the display device  
according to any one of claim 20 to 23, the method further  
30 comprises the step of forming a titanium oxide film below the

first conductive layer.

25. The method for manufacturing the display device according to any one of claim 20 to 23, the method further  
5 comprises the step of forming a film comprising at least one selected from the group consisting of W (tungsten), Al (aluminum), Ta (tantalum), Zr (zirconium), Hf (hafnium), Ir (iridium), Nb (niobium), Pd (lead), Pt (platinum), Mo (molybdenum), Rh (rhodium), Sc (scandium), Ti (titanium), V  
10 (vanadium), Cr (chromium), Mn (manganese), Fe (iron), Co (cobalt), Ni (nickel), Cu (copper), and Zn (zinc) below the first conductive layer.

26. The method for manufacturing a display device  
15 according to any one of claims 20 to 23, wherein the first conductive material is one selected from the group consisting of silver, gold, copper, and indium tin oxide.

27. The method for manufacturing a display device  
20 according to claim 22 or 23, wherein the second conductive material is one selected from the group consisting of silver, gold, copper, and indium tin oxide.

28. The method for manufacturing the display device  
25 according to any one of claims 20 to 23, wherein the first opening is formed to have a width of from 5  $\mu\text{m}$  to 100  $\mu\text{m}$ .

29. The method for manufacturing the display device according to any one of claims 21 to 23, wherein the  
30 semiconductor layer is an amorphous semiconductor layer formed

from a gas including at least one of hydrogen and halogen.

30. The method for manufacturing the display device according to any one of claims 21 to 23, wherein the  
5 semiconductor layer is a semi-amorphous semiconductor layer formed from a gas including at least one of hydrogen and halogen.

31. The method for manufacturing the display device according to any one of claims 21 to 23, wherein the  
10 semiconductor layer is a polycrystalline semiconductor layer formed from a gas including at least one of hydrogen and halogen.

32. The method for manufacturing the display device according to any one of claims 21 to 23, wherein the second  
15 conductive layer is formed so that a channel length of the semiconductor layer is from 5  $\mu\text{m}$  to 100  $\mu\text{m}$ .